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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,428	12/27/2001	Jules Olita	P638	1721

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EXAMINER

LONG, HEATHER R

ART UNIT PAPER NUMBER

2615

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,428

Applicant(s)

OLITA ET AL.

Examiner

Heather R. Long

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7-9 and 11 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 10 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - a. Page 13, line 24: change "18b" to -18a--.

Appropriate correction is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 5, reference character "50".

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Del Bianco et al. (U.S. Patent 6,859,327).

Regarding claim 1, Del Bianco et al. discloses a thermal imaging system intended for use upon a helmet (2) worn by a person observing a scene at a fire or other incident site (col. 1, lines 11-15), comprising: an infrared camera means (13) assembled and releasably mounted along the centerline of the helmet for producing video signals reflective of thermal images of the scene viewed along the centerline (as can be seen from Fig. 5); an eyepiece display means (6) extended from the infrared camera means (13) and adjustably connected thereto for presenting thermal images of the scene to the either eye of the person based on the video signals from the infrared camera means (13) (the display means covers both eyes); and bracket means (7 and 16) releasably engaged and coupled between the infrared camera means (13) and the helmet (2) for mounting the infrared camera means (13) along the centerline of the helmet (2).

Regarding claim 2, Del Bianco et al. discloses all the limitations as previously discussed with respect to claim 1 including that the infrared camera means (13) comprises: an infrared camera (13) having a sensor array forwardly positioned to detect infrared radiation emanating from the scene for producing electrical signals indicative thereof (as can be seen in Fig. 5); signal processor means connected to receive the electrical signals from the infrared camera (13) for generating processed video signals based thereon indicative of thermal images of the scene; and battery means (29) connected to the infrared camera (13) and the signal processor means for providing electrical power thereto.

Regarding claim 7, Del Bianco et al. discloses a thermal imaging camera system intended for use upon a helmet (2) having a brim (22) and worn by a person observing a scene at a fire or other incident site (col. 1, lines 11-15), comprising: an infrared camera means (13) assembled and adapted to be mounted upon the brim (22) of the helmet (2), the infrared camera means (13) being disposed to view the scene along the centerline of the helmet (2) for generating processed video signals reflective of thermal images of the scene; an eyepiece display means (6) electrically connected to the infrared camera means (13) and flexibly extended therefrom for displaying thermal images of the scene to either eye of the person based on the video signals generated from the infrared camera means (13) (the display means covers both eyes); and bracket means (7 and 16) interconnected between the infrared camera means (22) and

the brim (22) of the helmet (2) for releasably mounting the infrared camera means (13) along the centerline of the helmet (2).

Regarding claim 8, grounds for rejecting claim 2 apply for claim 8 in its entirety.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 5, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Del Bianco et al. (U. S. Patent 6,859,327).

Regarding claim 3, Del Bianco et al. discloses all the limitations as previously discussed with respect to claims 1 and 2 except that the infrared camera means further comprises housing means for containing the infrared camera, the signal processor means and the battery means in an assembled camera arrangement wherein the sensor array of the infrared camera is forwardly disposed to receive the infrared radiation emanating from the scene. Official Notice is taken that a surveillance camera housing contains all the electronic components and power components necessary to operate the camera in order to protect the components from the surrounding weather. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made

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to combined the infrared camera means, signal processing means, and the battery means into one housing in order to minimize the camera assembly to make the camera more versatile and to protect the components from environmental conditions.

Regarding claim **5**, Del Bianco et al. discloses all the limitations as previously discussed with respect to claims 1-3 including that the eyepiece display means (6) comprises an eyepiece display electrically connected to receive the processed video signals from the signal processor means for producing thermal images therefrom (col. 3, line 62 – col. 4, line 4); and an articulated arm (15) connected to the housing means and adjustably configured to extend the eyepiece display therefrom in a position forward of either eye of the person (col. 3, lines 29-31).

Regarding claim **9**, grounds for rejecting claim 3 apply for claim 9 in its entirety.

Regarding claim **11**, grounds for rejecting claim 5 apply for claim 11 in its entirety.

Allowable Subject Matter

7. Claims 4, 6, 10, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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8. The following is a statement of reasons for the indication of allowable subject matter: Prior art fails to teach or fairly suggest a thermal imaging camera system, in combination with all the other elements, comprising:

a. A housing means comprising: a front housing member formed having a cavity to substantially contain the assembled camera arrangement therein and further formed having a portal centrally therethrough to permit transmission of the infrared radiation emanating from the scene to the sensor array of the infrared camera; a rear housing member connected to the front housing member and formed to enclose the cavity thereof; the rear housing member being further formed to provide an interior compartment to hold the battery means; and a battery door pivotally connected to the rear housing member to close the interior compartment therein (claims 4 and 10).

b. A bracket means comprises: a first bracket member attached to the housing means in an axial direction, the first bracket member being formed having an open rectangular configuration with a C-shaped cross-section; a second bracket member attached to the helmet in an axial direction and along the centerline of the helmet, the second bracket member being formed having a rectangular configuration conformed to fit axially within the open rectangular configuration of the first bracket member; and decent means secured to the second bracket member and transversely disposed thereon to releasably interlock the first and second bracket members when axially engaged (claims 6 and 12).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Bender et al. (U.S. Patent Application Publication 2003/0169491) discloses a night vision system used for fire-fighting applications. The single element lens, the aperture stop and the infrared-red detector are installed in a camera mounted on the helmet.
- b. Gordon et al. (U.S. Patent 6,606,114) discloses a combination head-protective helmet and thermal imaging apparatus, including an infrared camera for producing an infrared image of a scene or object and a display system which generates a visible image of the scene or object from the infrared image.
- c. Hanson et al. (U.S. Patent 5,200,827) discloses in Fig. 11 a helmet is worn over video display headgear. The headgear is shown for mounting the video display adjacent the eyes of a wearer.
- d. Zhang (U.S. Patent Application Publication 2002/0030163) discloses an infrared imaging device is mountable to a headgear, and further comprises a first connector arranged to releasably secure the infrared imaging device to the headgear such that the bottom of the display is just above the eyes of an operator when the headgear is worn.
- e. Zhang (U.S. Patent 6,476,391) discloses a helmet mounted infrared imaging system that can detect and recognize flames, humans, and other

objects, reduce the weight of the helmet components to less than 0.5 pounds, view simultaneously visible and invisible surroundings without hindering operations.

f. Prescott (U.S. Patent 5,089,914) discloses a thermal camera arrangement comprising a helmet having a faceplate and a thermal camera mounted on the helmet arranged such that a wearer of the helmet can view the output of the camera, the optical path through free space from the camera output to the wearer's eye being substantially wholly within a volume defined by the helmet and the faceplate.

g. Coombs (U.S. Patent 5,949,582) discloses a faceplate assembly and a self-contained thermal imaging system comprising a facepiece that includes a front lens, an air inlet for receiving air under pressure, and an air outlet. The thermal imaging system includes a sensor lens connected to the front lens of the faceplate, and a rotating chopper wheel within the facepiece adjacent the sensor lens.

h. Radzelovage et al. (U.S. Patent 5,584,073) discloses an integrated helmet system for presenting the wearer with visible images in which an outer helmet providing a surface on which images are projected is adapted to be assembled on the frame of an inner helmet having a headband on the which the frame is mounted for adjustment in front to back and side to side directions.

- i. Dobbie et al. (U.S. Patent 6,560,029) discloses a man portable video enhanced night vision goggle comprised of a head mount assembly, an image intensified video camera, and a display.
- j. Warner et al. (U.S. Patent 6,255,650) discloses a head-up display, an IR camera and associated electronics including power are integrated into portable, self-contained, wrap-around, face-worn vision enhancement apparatus useful in environments of dense air-borne particulate and thermal extremes.
- k. Ronzani et al. (U.S. Patent 6,683,584) discloses a head-mounted maintenance computer worn by a maintenance worker. The hard hat includes a display pod that is coupled to a housing, which is supported horizontal members within the blister compartment. The housing is slidable along the supporting members to position the display pod horizontally within the worker's field of view.
- l. Ostromek et al. discloses a man-portable sensor fusion system that includes a sensor unit that has at least a first and second sensor arranged along a sensor axis. A head adapter provides support to mount at least one selected device, such as the sensor unit, a battery holder, a view screen, or the like, about a user's cranium.
- m. Prescott et al. (WO 00/45211) discloses a thermal imaging apparatus intended for mounting on a protective safety helmet that has a registration section adapted to locate against the forward brim of a helmet. The registration section forms of a part of a releasable mounting clamp, arranged to extend around the rear of the helmet, to secure the apparatus in position. To one side of

the mounting clamp is a thermal imaging camera assembly and on the opposite side is a rechargeable power pack. A display device is mounted on the registration section by means of a pair of arms so that the display device may be moved between an active position, where an image is within the wearer's field of view, and an inactive position, hinged up against the helmet. The apparatus is substantially balanced about a vertical central plane.

n. Miyano et al. (JP- 2004/244745) discloses an infrared camera and a display positioned in front of the eyes at least when using the infrared camera and running a screen image took with the infrared camera on a face protector or a helmet. The infrared camera and the display are arranged in a range of the front view contour when the face protector or the helmet is attached to the head of the worker.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heather R. Long whose telephone number is 571-272-7368. The examiner can normally be reached on Mon. - Thurs.: 7:00 am - 4:30 pm, and every other Fri.: 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on 571-272-7950. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Heather R Long
Examiner
Art Unit 2615

HRL
May 13, 2005


TUAN HO
PRIMARY EXAMINER